

Claims

- 5
1. A starch composition comprising a degraded starch modified to contain a cationic group and inhibited wherein the final peak viscosity of said starch is less than 500 centipoise and is 110 to 1000 percent of the non-inhibited degraded cationized starch viscosity.
- 10
2. The composition of claim 1, wherein the final peak viscosity of said starch is 130 to 800 percent of the non-inhibited degraded cationized starch viscosity.
3. The composition of claim 1 wherein the starch is chosen from the group consisting of corn, tapioca, potato and sago and their waxy and high amylose versions thereof.
- 15
4. The composition of claim 1 wherein the starch is inhibited chemically.
5. The composition of claim 4 wherein the starch is inhibited with epichlorohydrin.
6. The composition of claim 1 wherein the starch is inhibited thermally.
- 20
7. The composition of claim 1 wherein the degraded starch has a WF of about 15 to 85.
8. The composition of claim 7 wherein the degraded starch has a WF of about 20 to 70.
9. The composition of claim 8 wherein the degraded starch has a WF of about 35 to 65.
- 25
10. The composition of claim 1 wherein the cationic group is a quaternary ammonium derivative.
11. The composition of claim 1 wherein the degraded, cationic, inhibited starch has a peak viscosity of less than 250 centipoise.
12. The composition of claim 11, wherein the starch is chosen from the group consisting of corn, waxy corn, tapioca and potato and is modified to contain a quaternary amine group and inhibited with epichlorohydrin, wherein the final peak viscosity of said starch is 130 to 800 percent of the non-inhibited degraded cationized starch viscosity.

5 A1

13. A process for preparing the starch composition of claim 1, comprising the steps of; degrading the molecular weight of a native starch, inhibiting the starch, and chemically modifying the starch with a cationic reagent.

14. The process of claim 13, wherein the inhibition is produced thermally.

5 A2

15. A process for making paper comprising the steps of; adding the starch of claim 1 to a papermaking system.

16. The process of claim 15 wherein the starch is added in the granular form.

17. A paper article comprising the starch of claim 1.

18. A paper article comprising the starch of claim 12.

10

add
A3